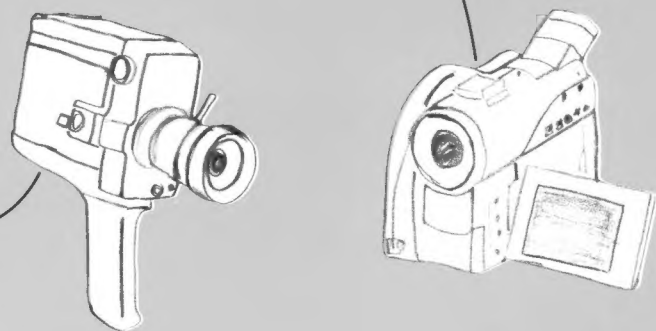


low-tech squealer

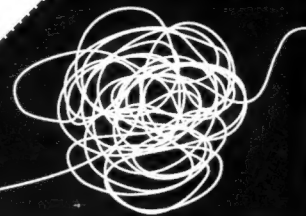


winter / spring 2004

low-tech / high-tech
lo n' hi tools of the trade

EMBRACING DIGITAL RUPTURES AND DEEP TWEAKING OF THINGS ANALOG

by Nicholas Economos



As I begin writing this I am using pen, ink and paper, later I will input these traced words into a word processor to edit. The hybrid nature of this process is typical of the approach I most often use when trying to make something. Not to imply that I always start with analog media and then move to digital, but the place I operate from in my art and experiencing the art of others does not poise these terms necessarily as dichotomies

Today, code is twisted by algorithms to emulate the sound of vintage electronic instruments.

or in any way hierarchical. The terms are permeable and intermingled in my current thought. Unfortunately in industrialized society as a whole this is not the case. Digital and hi tech are the privileged terms for many and certainly have political implications at this moment that are enough for me to want to favor analog and low tech.

The nature of analog is expressed by 'more-or-less' while digital differences are either/or. Analog is the indexical impression recorded from a waveform or gradient, while digital is that impression encoded in stair stepped binary bits, 1's and 0's stored to machine memory. To experience this binary storage it is necessary to convert it back to an analog form. Text, sound, visuals, movement and reaction all stored in a common binary form allows for synesthesia, plasticity, numerous clones and processes that are unzipped from the arrow of time. For me, these are affordances that have interesting implications and in various ways are helpful to the way I work. I find both analog and digital to be beautiful in their imperfection. I forget in which popular science magazine I read about a metallurgist that did a detailed study of harpsichord strings, both contemporary and those of early

I enjoy the sound of a tube amplifier not because I am a luddite or purist of any sort but because I like the way it fills my ears. I try to remember this no matter what the media is that I am working with.

models. The finding was that the amalgam for strings in early harpsichords was produced from ores that were not as purified as they are now by modern technology. The rich sound of the early instruments was attributed to that extra bit of "dirt". I enjoy the sound of a tube amplifier not because I am a luddite or purist of any sort but because I like the way it fills

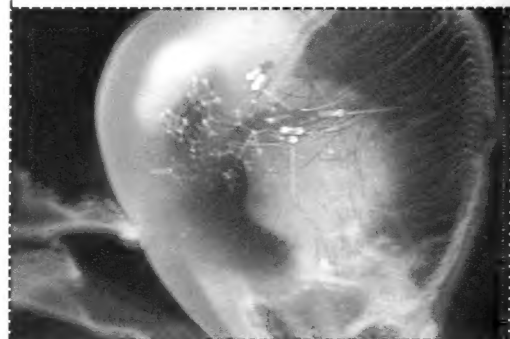
my ears. I try to remember this no matter what the media is that I am working with.

Today, code is twisted by algorithms to emulate the sound of vintage electronic instruments. Is it ironic that I need a computer with formidable processing power to drive the calculations to make a convincing and rich analog emulation? It overwhelms the mind to grasp the number of calculations it takes to push video pixels to do a simple keying effect. I am not trying to say that analog is inherently better because of the complexity of these calculations but that to build a simulation is not easy if at all possible. For me, simulation is not the penultimate of computing with a final chapter that finds me uploading my mind into a machine. Rather it's the machine that allows my mind another way to enter the world.

Digital signal processing is not as perfect as some may believe. It has its own rough edges as evidenced in the strange artifacts often produced when converting to or from analog form. These artifacts can make for some interesting art. In sound composition at the moment, these imperfections are being isolated and deliberately generated to serve as seed sounds to be explored recursively with the computer at a microscopic level.

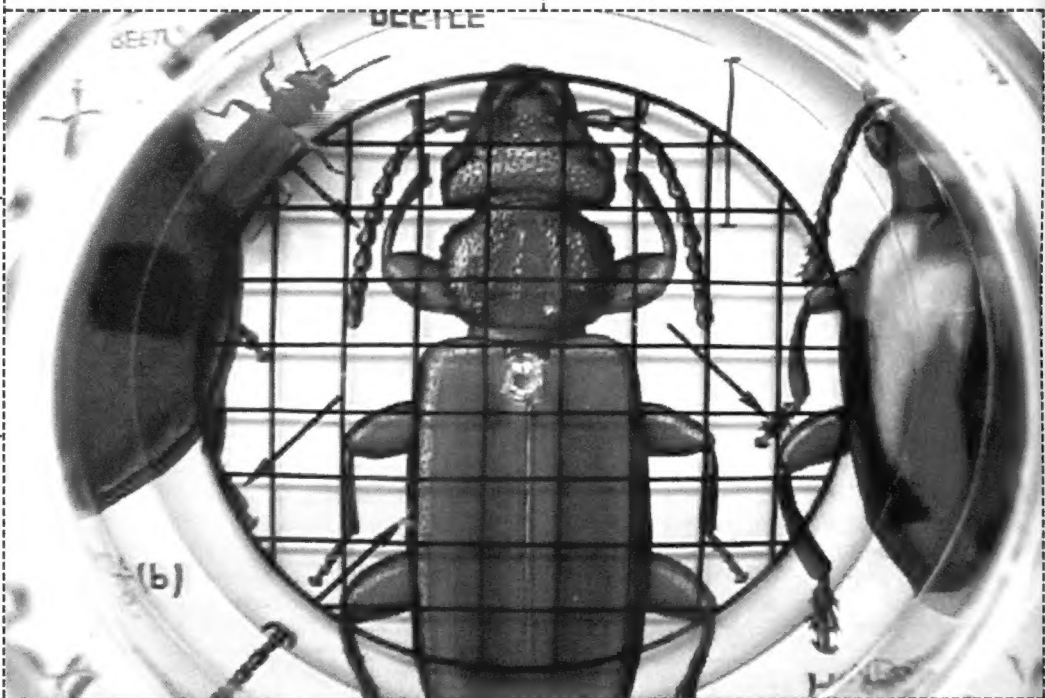
Often, while I am trying to learn new software or hardware, I produce the most interesting results. Once I gain significant technical skill and knowledge, my thinking and process sometimes become too straight-lined to a

specific result, and I don't have the interesting meandering made when I didn't quite know what I was doing. I have to remind myself to get lost again to find something. I hope we are past the digital hype of the 90's and are about to do some wandering in places that embrace digital ruptures and deep tweaking of things analog.



Nicholas Economos is a digital media artist and educator living in rural Western New York, and working in interactive media, sound, video, animation and prints. His work has been exhibited at Art in General, Ocularis, DigiFest, the Boston Cyberarts Festival, and is in the permanent collection at Rhizome.org. He is a frequent artist-in-residence at the Experimental Television Center, and is a visiting professor at Alfred University.

Stills from Economos' videos.



SPECIAL HIGHLIGHT ON THE EXPERIMENTAL TELEVISION CENTER
Personal and historical essays by established video/media artists

FATAL ERROR TYPE 1 HAS OCCURED

Analog vs. Digital: An Ideological Debate

by Aaron Miller

Any discussion of high tech vs. low tech is incomplete without the not-so-age-old debate of analog vs. digital. Underlying this debate are considerable ideological differences, considered a set of influencing values. These values are greater than the mere categorization of current electronic artists: they are both shaped by our technology, and at the same time shape the technology. When we as artists are aware of the ideologies embedded in our tools, we can choose to play off those ideologies, subvert them, or willingly choose to promote them.

The ideological debate between analog and digital has embedded values ranging from brand loyalty to spirituality, from commercialism to experimentation. These processes, systems, values, and ideologies are integral to the construction of any analog or digital sound or image making tools. To produce work from a single ideological standpoint can limit the potential for that work. Just as information that is processed by tools constructed from a single ideological standpoint can limit the potential for that information as well.

The ideological framework embedded in the tools we use is strikingly obvious, yet we rarely question how our tools dictate the way we use them. By not questioning our tools we might be reinforcing the very ideologies the software and hardware companies subscribe to. For example, Apple's Final Cut Pro dictates our narrative videos, Macromedia's Flash dictates our animations, and Microsoft's Word just dictated the structure of this sentence by replacing the semicolons I had used with commas.

A popular, yet unintended use of an editing program may cause the authors of the software to reconsider the values embedded in their product, just as hip-hop DJs caused turntable companies to reconsider the values embedded in theirs. Within certain DJ camps the values of its constituents are very clear and often determined by their tools. A hip-hop DJ using CD turntables would get laughed out of the business. Yet as turntablism grows and disseminates into multiple musical styles, the desire for certain digital tools grows while production increases, and these digital tools become more widely accepted into the DJ ideology.

When multiple tools, each created in the context of a different ideology, are brought together as a part of one larger system a few interesting things happen. It is possible to facilitate the meeting of multiple ideologies. One example of these larger, more complex mergers of systems is housed at the

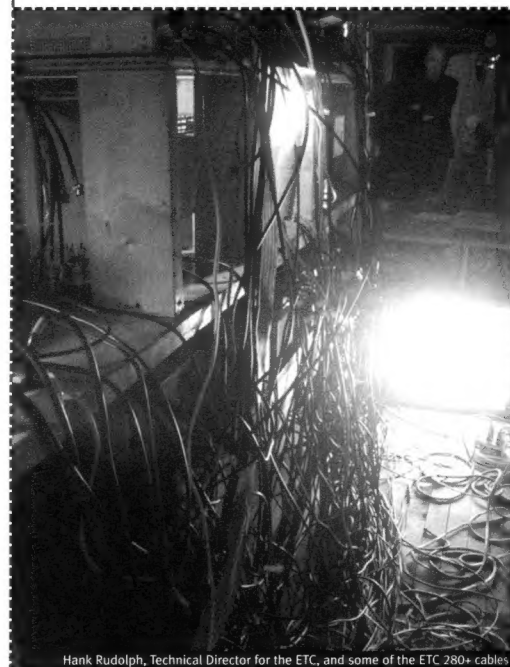
Experimental Television Center.

The Experimental Television Center (ETC) is a small video production studio and non-profit media arts organization in Owego (not Oswego), New York, about 20 minutes west of Binghamton. It lives in the attic of a very-large tchotchke/lawn ornament shop called the Hand of Man, overlooking the Susquehanna River. The Experimental Television Center has been there for years, moving in the early 1970's after a short time as a media access program at the University of Binghamton. Basically, ETC has been around, collecting and connecting video equipment, since portable personal video became accessible to the general public. And it looks like they haven't gotten rid of a thing. To the modern day video artist, producer, or club VJ it would look like a video graveyard if it weren't buzzing with 60-cycle hum (60Hz AC power) 24 hours a day, three-hundred some odd days a year. They have early analog video synthesizers and processors (including an altered television made by Nam June Paik), commercial digital hardware and software from the eighties (think early music videos), some standard television studio equipment, all the way up to a couple new Macs. And it's all integrated.

Every piece of equipment at ETC can be hooked to any other piece of equipment, without having to rewire the system. In other words: you could make 3D animation on the G4, send the output to Paik's Raster Manipulation Unit, rescan that image with a black and white studio camera, run that through an ultra-low resolution Amiga program, maybe pass it through a couple of custom built video processors, project that image onto your body, rescan that image, and map it back onto the original 3D animation without ever having to plug or un-plug any of the 280+ video cables connecting the fifty-some pieces of equipment. For those of you unfamiliar with video equipment, this means you could processes your video with tools from the entire history of video and then process that output again (and again and again).

Each piece of equipment in this imaginary feedback loop is a system. And each system has a history, an author/inventor, an intended purpose, etc. Although somewhat bound by technological restraints, the inventor of each system employed a set of processes as a means to a certain ideological end. The inventor of the knob-tweakable analog synth may want fluidity, interaction, and intuition to play a large part in how the user interacts with his device, whereas the inventor of the television broadcast video switcher wants the

user to have very little interaction with his device at all. Instead, he/she wants the device to follow strict standards of quality, with seamless transitions between video signals.



And then there is the inventor of the artist-centered computer software program, who wants the artist/user to be able to layer and rework fragments of sound and video with all the flexibility of a hip-hop DJ yet with the data basing capabilities of Microsoft. These three systems embody entirely different ideologies: intuitive expressiveness, commercial quality and control, and post-modern collage. The Experimental Television Center houses all of these systems, plus many more, and therefore the ability to explore all of these ideologies.

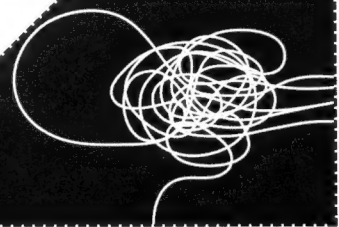
As digital artists, we need to make a shift in the way we approach art making with technology. Through the example of an open-ended studio structure, such as the Experimental Television Center, comes an awareness of the play between the way we use our tools and the way our tools teach us how to use them. Through this awareness comes the ability to challenge, encourage, and compare the ideological underpinnings of these tools.

Aaron Miller is a multimedia artist living in Buffalo, New York. He received his MA from the University at Buffalo. He is currently teaching at Medaille College. His work has been exhibited at the Center for Contemporary Images in Geneva, Switzerland and as part of *Encuentro Digital en La Habana* in Havana, Cuba.

SPECIAL HIGHLIGHT ON THE EXPERIMENTAL TELEVISION CENTER
Personal and historical essays by established video/media artists

EXPERIMENTAL TELEVISION CENTER -THE EVOLUTION OF THINKING MACHINES

by Sherry Miller Hocking



The image processing system used today in the studio of the **Experimental Television Center** is a hybrid tool set which encourages interactive relationships among older historically important analog instruments such as colorizers and keyers, and new digital technologies. The system includes hand-built, artist-designed instruments such as the Jones Colorizer and the Sandin Image Processor, as well as old and new digital technologies. It includes several G4s, Max/MSP and Jitter, as well as DVD authoring and editing software and a customized Doepfer A-100 system with sonic and control modules. This rich electronic environment encourages artists to explore boundaries and intersections within narrative, documentary and social issue traditions as well as more experimental forms, and new ways of working with digital technologies.

Since 1971 the Research and the Residency Programs at the Center have been equal partners, providing opportunities for artists and technicians to collaboratively work toward the conceptualization and realization of new instruments; using these new devices artists create images previously unseen, and new

The early commercially available tool set for media artists was very limited, and the Center dedicated its resources to breaking through the boundaries of these devices and to creating new machines.

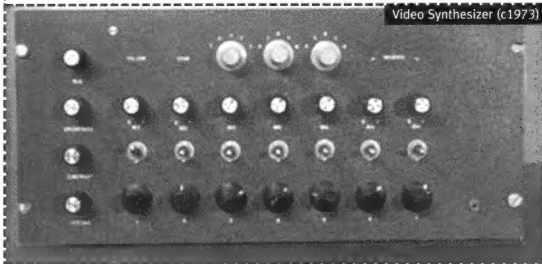
relationships among visual and sonic elements. The early commercially available tool set for media artists was very limited, and the Center dedicated its resources to breaking through the boundaries of these devices and to creating new machines. From the early 1970s modifications of portapak cameras to allow adjustments over gain and pedestal, to the construction of the Paik Abe Video Synthesizer, the Jones Buffer, and the interface of the LSI-11 computer system, the design and use by video makers of responsive and flexible tools has always been an important mission of the Center.

These are some of the signposts on our journey in the arts and sciences.

1972

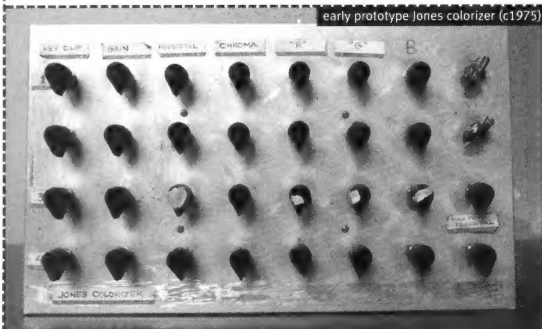
The construction of the Paik/Abe Video Synthesizer begins, designed by Shuya Abe and Nam June Paik and built at the Center with David Jones and Robert Diamond, for eventual placement at the TV Lab at WNET TV. This system is used at the Center by Paik and the staff of WNET, including David

Loxton and engineer John Godfrey to produce a portion of Paik's *The Selling of New York*, a part of *Suite 212*, broadcast in 1972 by WNET. The P/AVS is also used in the Center's Residency Program by artists such as Ernie Gehr, Hollis Frampton, Jackson MacLow and Nick Ray, and featured in an exhibition at the Everson Museum. A raster scan manipulation device was also constructed, the principles of which were defined by Paik's early TV experiments, including *Dancing Patterns*. We make CV and AV portable systems available to artists and the community. Bob Diamond engineers a battery system consisting of a motorcycle battery housed in a child's lunch box; this allows a much longer recording time.



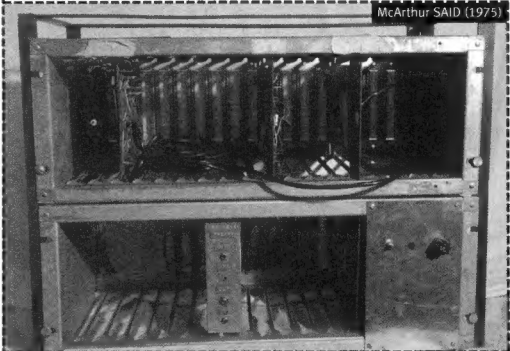
1973-74

Oscillators are designed by David Jones for use as signal inputs to the synthesizer, and as sonic modules. Initial research begins into the Jones gray level keyer and production of a black and white keyer. A commercially available Sony SEG is modified to accept direct sync interface with the Paik/Abe with provision for external wipe signal input.



1974-75

David Jones develops the Jones Colorizer, a four channel voltage controllable colorizer with gray level keyers. In April 1975 the SAID (Spatial and Intensity Digitizer) is developed by Dr. Don McArthur, an outgrowth of research on black and white time base corrector. Work is begun by David Jones, Don McArthur and Walter Wright on a project to explore the interface of an LSI-11 computer with a video processing system. The goal is to create and control video imagery using a computer.

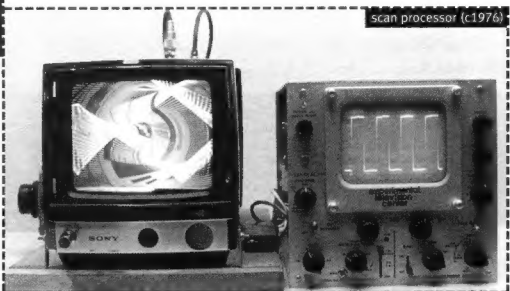


1975-76

The National Endowment for the Arts in 1975 provides support for initial research into the computer-video processing project, which is expanded by Jones, McArthur, Wright and Brewster to incorporate parallel research efforts by Woody and Steina Vasulka and Jeffrey Schier. The LSI-11 computer is the standard. Jones develops hard and soft edged keyers and a sequential switcher, which along with the Jones Colorizer, are incorporated into the processing system. A 64-point push button switching matrix is built, and used in dance performances with the American Dance Asylum and Bill T. Jones and Arnie Zane. We write a manual, which serves as an operator's guide to 1/2" reel-to-reel equipment, portapaks and editing equipment. Later we include construction information on a Paik Raster Control Unit. By 1985, the information is expanded to include systems structure and theory of electronic signals and processing techniques. These manuals have been distributed to many individuals and organizations over the years, and are now available on the Video History Web.

1976-77

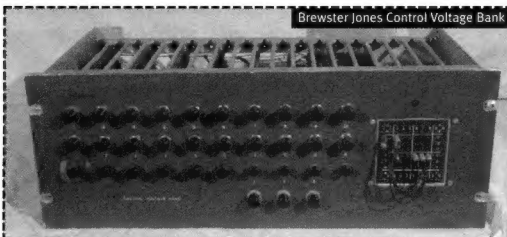
The LSI-11 microprocessor is interfaced with video and audio synthesis equipment was installed as part of the system and made available to artists through the Residency Program; software research begins.



1977-78

The Analog Control Box is designed by David Jones and Richard Brewster, allowing the pro-

duction of electronic sounds and also signals which controlled parameters of the video signal. The computer project proceeds, assisted by Paul Davis, then director of the student computer lab and instructor at the School for Advanced Technology at SUNY-Binghamton.



1979-80

We use a Z-2, an 8 bit computer with an S-100 bus, and dual floppy drives, as the digital device within the processing system. A CAT digital frame buffer is interfaced to the computer; at the time this is one of the only commercially available "low-cost" digital devices, which incorporated concepts of video, and recordable signal output. The Z-80 is interfaced also with the analog box. Software begins to be developed for specific video uses.



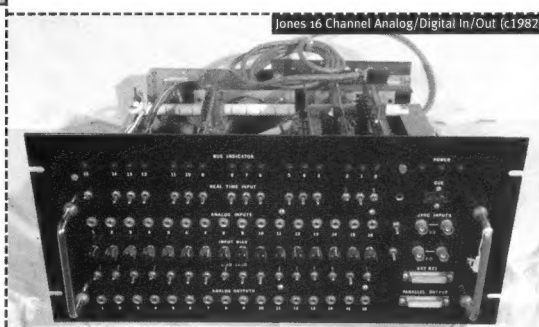
1980-81

The need for artist-oriented software increases. The Print Program is developed by David Jones, allowing artists to develop videographic still frames, captured on disk, then printed out with variable gray level control. This is a natural extension of the use of video image processing as an electronic darkroom for photographic techniques, an area that was explored by a number of artists at the Center since the early 70s. Additional software is developed by graduate-level interns under the direction of Paul Davis and Ralph Hocking.



1982-83

The General Purpose Interface Board is designed to interface analog imaging equipment with an 8-bit computer, allowing manually-changed knob settings to be "remembered" and repeated digitally. David Jones and Peer Bode collaborate on the initial research for a real-time frame buffer, which digitizes in real time analog video images, with a resolution of 256x256, 16 shades of gray. The Pattern Program, a software project, is designed an internship project by Master's candidates at SUNY. Patterns or textures can be drawn and then stored and used as movable windows.



1983-84

Matt Schlanger and David Jones work on the Four Board Project, which consists of a four channel colorizer, keyers, multi-channel programmable sequencer, and oscillators. In addition to providing equipment for the Residency Program, one intention of the project is to define a comprehensive, low-cost imaging system and to then help artists to acquire or to build the tools. We begin to study the newly available Amiga computer.

1984-85

Matt Schlanger, Connie Coleman and Alan Powell document the Four Board Project. The equipment manual is revised to include the new tools, and to explicate such processes as keying, colorization, and switching.

1985-86

The Four Board Project is premiered at the Media Alliance Annual Conference at The Kitchen. David Jones and Peer Bode develop a black and white frame buffer by to be interfaced to the Amiga computer.

1986-87

The Print Program is revised for the Amiga. Customized software is devised to allow the computer to control the frame buffer. By 1988 a second Amiga is added to the system, one dedicated to buffer control, and one for videographics and audio software. We continue to work on educational strategies which help artists to become fluent on the computer and digital devices as quickly as possible.

1988-89

We begin work on MIDI and control voltage exchange boxes.

1990-91

A third Amiga and Toaster are added to the system.

1991-92

We begin a project to catalog antique equipment, artists' videotapes, print materials and audiotapes, using a computerized relational database. The project is inspired by our work for the Arts Electronica *Video Pioneers* exhibition at Linz, Austria in the Summer of 1992. We construct interfaces for the R/E, Paik Abe Video Synthesizer and several other devices.

1993-98

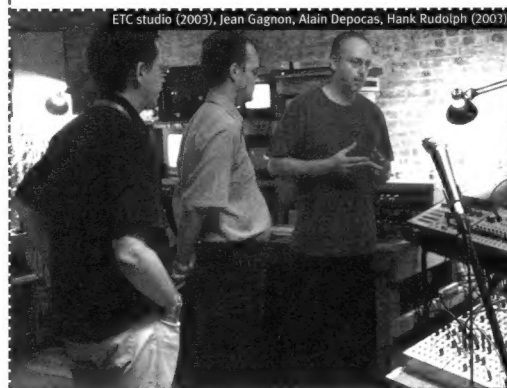
In 1994 we initiate the Video History Project, which documents the early historical development of video art. In partnership with the Institute for Electronic Arts at Alfred University and the New York State Alliance for Arts Education, the Experimental Television Center organizes *Video History: Making Connections* (Syracuse University, 1998). The Video History Web was premiered at the conference.

1999-00

With support from a Technology Grant from the New York State Council on the Arts, the system is expanded to include a G4 Mac with nonlinear editing and other image processing software. The Video History Project receives assistance from the New York Foundation for the Arts to assist with the planning process for revisions to the website. The site is formally launched Summer 2000.

2002-03

With assistance in 2003 from mediaThe foundation, we are able to significantly advance the digital components of the imaging system, incorporating a second G4 computer, other sonic and control modules by Doepfer, interactive software including Max/MSP and Jitter, as well as DVD authoring and editing software.



Sherry Miller Hocking has worked with the Center since 1972. Since 1989 she has been Program Director for the Electronic Arts Grants Program, providing funding opportunities to individuals and media arts organizations. In 1993 she designed the Video History Project, a multifaceted effort to reclaim the multiple histories of the independent media field, and serves as director of the Video History Web, an interactive site featuring extensive media and preservation resources and a contribution area. Visit www.experimentaltvcenter.org

to a factory. But who is controlling this factory, if one does not understand the photographs anyways?

HF: Yes, at stake is the interpretive power of the image. For thousands of years the subjective component in historiography has been decreasing. History is recorded more and more by machines, by systems of inscription, rather than by actual people. In the case of Auschwitz this was particularly clear. During the Second World War postindustrial telecommunication was invented. The computers of the English decoded the codes of the Germans. Nonetheless, we needed living witnesses, we needed the prisoners Vrba and Wetzler, who were able to flee the concentration camp and provide living testimony to the existence of Auschwitz. One could also conclude that systems of reconnaissance cannot recognize anything new. Their registration is based on preconceived patterns. They cannot recognize something outside these patterns. In this case the new things were something horrible. But there is also hope.

SW: In the film you state that the word Enlightenment (Aufklärung) also has a military meaning in German, as well as a meaning used in the police force. "Already then, work had to be created and this was done with war production and destruction." I immediately had to think of Iraq and the many industries and people who make a lot of money with this war. Do you also see this parallel?

HF: Just like 70 years ago, the rich countries today face an enormous crisis in employment, and it is tempting to do something destructive. One can read about this in every business section of the newspapers, the hope that a war

will stimulate the economy. But it doesn't seem to work. It's also questionable whether a victory over the Taliban or the regime of Saddam will create an impetus to modernize.

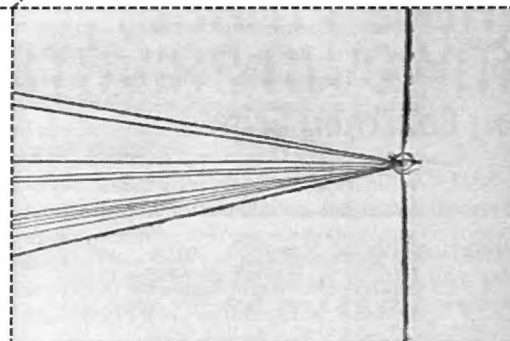
SW: The music, interrupted again and again (like waves, like thoughts, like a photo which one cannot clearly recognize?) – what was your motivation?

HF: I took famous classical pieces, from Bach and Beethoven, put the soundtracks into a sound degausser (to erase the sound), but put an opened pair of scissors on top. In this way, everything underneath the metal of the scissors was kept intact. During the sound mix I spontaneously said: now, the first piece, now stop. I had spent so much time with the montage and the images, that everything seemed too calculated to me. The film needed an improvised element.

SW: How about the French woman who is being made up?

HF: This woman is a model, who is being prepared for a shoot in a special way. The make-up artist is rubbing powder into her skin. I had filmed these images 15 years before and I remembered them again. *Images Of The World* is about the connection between preservation and destruction. Here one sees how skin is made into something marble-like – for the sake of the image a living person is fossilized.

SW: At the beginning of the film the voice-over states: "One only finds what one is looking for." In a drawing class a teacher advises his student to "first think, then draw, then think." And at the end of the film



resistance fighters manage to destroy a gas chamber, something that no one has been able to do before. Are you, as filmmaker, interested in showing or teaching? Or, put differently, do you want to change the world, or do you want to interpret it?

HF: Yes, it is important sometimes not to think, to be fully with the material and the process of working, in order to find something that pure reflection cannot reveal. A film should be logical, but there are several, even many kinds of logic. In this film I am trying to combine relatively few elements in different ways, creating permutations. And of course it is impossible to declare theorems, at best one can offer a certain look, certain connections. Like a novel, which also does not tell one how to live.

Harun Farocki was born in 1944 in Nový Jičín (Neutitschein), in German-annexed Czechoslovakia. He lives in Berlin and is one of Germany's most influential filmmakers.

Dorothea Braemer is the Executive Director of Squeaky Wheel.

Stills from: *Images Of The World And The Inscription Of War*

SPECIAL HIGHLIGHT ON THE EXPERIMENTAL TELEVISION CENTER

Personal and historical essays by established video/media artists

EVOLUTION IS RELENTLESS: ANALOG IS BUT A DREAM...

by Carol Goss

We are still at the very beginning of the history of recorded motion images. This includes: the stroboscope, the kinoscope, 20th century cinema and DVDs. Analog is but a dream, and that means not only analog video, but also film. Evolution is relentless.

From the artist's perspective, however, technology should be additive, not subtractive or competitive. There is no way to compare

**Analog is lush, hot and dangerous.
Digital is cool, precise and discrete.**

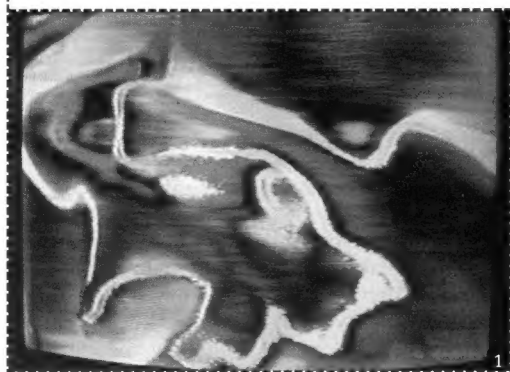
images captured with a tube camera, fed through an oscillator and then into an analog colorizer – with images captured digitally and then altered and animated on a computer. *Topography*, created on the Paik-Abe Synthesizer, is one of the first video pieces I

made at the Experimental Television Center. The analog circuitry of the board allowed "illegal" color signals, which would accumulate, intensify and alter hues at the borders of shapes.

Analog is lush, hot and dangerous. Digital is cool, precise and discrete. There is a qualitative difference between them that goes beyond issues of resolution. The immediacy of analog synthesis meant we could do live performance in the 1970s, creating and animating images in real-time. This is only possible just now with computers. The specificity of digital meant we could have loss-less dubs and do field accurate postproduction.

The era we see in the rear view mirror, the pre-urban time when humans related primarily to Nature, is analog in character. It is magnetic, influenced by the stars, with undulating

rhythms. The era we are now deep into is the Machine Age. It began with the Enlightenment, gained momentum with the



Industrial Revolution, and is now pervasive. The Machine Age is digital in character.

Quantum physics assures us of the simultaneous absolute and relative positions of electrons. The analog paradigm is the electron oscillating between two addresses. The digital paradigm is the electron having a fixed address. The analog image creation process relies more on aesthetic intuition than rational technique.

When creating a new piece, however, technology is not the primary concern. One meditates on a relationship and uses the instruments at hand to express the implications of that relationship. Ultimately, it all becomes a whole, and the media and its content become inseparable.

Digital promises us much. We will have more interactive media art. And eventually digital will approximate analog. Particle animation can create dirty, noisy surfaces and "natural" movement, which simulates the laws of physics, instead of following them. We will be able to create and collaborate in these virtual environments in real-time.

It is a richness to have the option to be loose and erratic or obsessive and exact. In a recent piece, *Zwischenraum*, machines are juxtaposed with nature. You see and here the fans, the cars, the birds, the heat, the ice. There is a play of opposites. I like to name pieces after they are completed. Only then do I know what they are saying. *Zwischenraum* is a German word in physics that means "the space between things." The Japanese have a wonderful understanding of empty space, which in the West we call "negative space." Most likely it is the concept of "digital" which provoked my meditation on this space between things. The result is a piece, which plays with time, place and sensation. The



"how" and the "why" of the piece are now inextricably entwined.

To read the complete essay, see the images in color and view motion excerpts from these programs, go to www.improvart.com/goss/

Carol Goss co-founded Improvising Artists with jazz pianist, Paul Bley, in 1974 and the Not Still Art Festival in 1996. She has collaborated with Walter Wright, Skip Sweeney, Steve Rutt, William S. Burroughs, Jaco Pastorius,

Pat Metheny and others. ImprovArt.com distributes her work and she is currently editing a book of her collected essays, entitled *Driven to Abstraction*, for Berkeley Hills Books. She lives in Cherry Valley, NY.

1. *Topography*, 1974, Carol Goss
2. *Zwischenraum*, 2003, Carol Goss

SUDDEN LOW-TECH NON-FICTION

Two by Katie Young

I'll
never write
A blog. Don't tell
the cyborgs or the
post-posts.....

Snapshot

The possibilities of digital technology's accessibility to the masses are liberating and sometimes creepy. I currently work in a lab where people bring photos to be Photoshopped all the time. In the course of a day, it isn't unusual for a person to bring in a photo and ask for

In the course of a day, it isn't unusual for a person to bring in a photo and ask for a bride's head to be decapitated and placed on a body from a different picture.

a bride's head to be decapitated and placed on a body from a different picture. This is no problem, but we have to resize the head. We wind up with ghoulish proofs scattered

around the office; three different pictures with three different sized heads. Still more uncanny is that it isn't immediately apparent what's wrong with the picture. It is only in comparison to the original photo's proportions that you realize the bride's head is strangely inflated or shrunk. But in the end, the customer gets her perfect picture to remember. The picture becomes the wedding and it comes to represent what she remembers. She does not remember that she shut her eyes when everyone else in the photo was looking his best. There is both a certain violence and potential for preservation to digital manipulation. The idea of a photo as a true document is long dead, but as a construction of memories, it persists.

Mini-Manifesto For Journals

I'll never write a blog. Don't tell the cyborgs or the post-posts but I actually believe in a relationship between ink and emotions. I have a stack of notebooks from the past eleven years of my life and the color of ink, sloppiness of script and added drawings or stickers or receipts or ticket stubs that are taped into the margins tell me more about who I was than I could ever remember unaided. And do I want to remember? Sometimes I do. And if I don't want to remember, I'll have a pyre instead of releasing my dated daily vagaries into the cyber realm for eternity.

Katie Young has sordid and unsorted feelings about analog and digital technology. She is currently working on a short super 8 film about love and hamsters entitled *My Little Animal*. Katie is also a performance artist and journalist. She lives in Buffalo, NY.

ELECTRIC BREATH: PULL THE PLUG, AND IT'S GONE

by Shalom Gorewitz

From Barbara Buckner to Bill Viola, many video artists have plunged into the metaphysical and mystical stream of fluid electronic media. The television signal's cycling steady beat provides a hypnotic canvas for formal and symbolic transformations. The subliminal shifts in analog and digital processing help translate mental (abstract) into visual (metaphor); echo outside (structure) and inside (content); erase contradictions and dualities; merge personal projection with real time experience. Thoughts and feelings are

Digital is part of the general human attempt to tame chaos.

revealed through visual parables, interpreted with vibrating light. Analog/digital (A/D) processing provides dynamic interaction between several shifting space systems. For those working consciously with the video signal this involves flow between contraction and expansion. In meditation, one learns the dangers of both trapping (holding on) and liberation; in electronic processing this is analogous to capturing and letting go.

I was attracted to Paik/Abe synthesizer and ETC matrix because they provided breath like patterns to pulse pictorial space. Video's elastic nature provided a structure for visualization of breathing within still or moving images. In meditation we learn that breath is a centering point. Analog voltage controls cause waveforms to oscillate rhythmic and repetitive inhalation/exhalation, gasping, sighing, panting in a perpetually fluctuating stream of consciousness. This was most directly expressed in *El Corandero* (1979). With David Jones' help, I configured levels of color and light to rise and fall while mixing multiple video channels. The desert scenes are almost black and white; the faith healer's town was electronically colored with burnt sienna; the layers appear to dissolve and melt as though poured across the canvas. With analog computers, one used patch cables and potentiometers to add real time physical controls over the frequency, duration, shape, and energy of the waveform. The A/D tools designed by David Jones especially provided precise instrumentation while yielding a rich array of imprecise visuals.

During the 1980's, I primarily used digital systems like the Quantel, Kaleidoscope, and

other dedicated re-positioning tools to "frame" projects for distribution by correcting small inherent flaws (like vertical blanking) of the ETC system. Digital correction essentially involved "rounding off and simplification." The digital tools that were slowly added to the ETC matrix during that time all provided physical control elements. By the mid-1980's the Amiga and by the early 1990's PCs provided digital imaging potentials. Real time processors like the Fairlight DVI and NewTec Toaster were relatively inexpensive or accessible and provided room for diverse projects. Video became more cinematic- sequential and frame based, as digital became more prevalent. During the last few years, the core analog/digital elements of the ETC systems have essentially been incorporated in popular PC and Apple software as color management, filters, transitions, and compositing. At the same time, there are several emergent programs that offer real time processing.

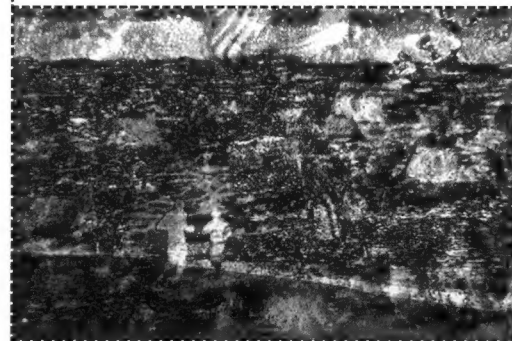
In 2003, I produced two videos that reflect on mortality, play with nature, and attempt to push technical boundaries of the medium. The first is *Borrowed Time*, a dirge for my father in which I symbolically carry his ashes for release over an active volcano. The second, *Constricted Light*, synthesizes organic,

The brain is digital—analytical, calculating, and efficient. Analog processing leads to undifferentiated visuals, no boundaries between forms, colors. Digital processing clarifies and provides sharp borders.

physical, and electronic analog and digital processes, i.e., the ocean, sun, clouds. In both I'm playing with gravity, duration, energy, direction, to hold onto and let go of the past. Artwork is always in some way about death. Life and nature are disordered and we are often confronted by the unexpected. Digital is part of the general human attempt to tame chaos.

Analog/digital processing as breathing the video signal illuminates the subtle but constant vibration of the universe. The heart is analog- ambiguous, emotional, able to hold several feelings at once. The brain is digital— analytical, calculating, and efficient. Analog processing leads to undifferentiated visuals,

no boundaries between forms, colors. Digital processing clarifies and provides sharp borders. Analog/Digital; Yin/Yang, Left/Right, Up/Down, As Is/As Is, Overload /Compression. Looking at art, like practicing



meditation is analog, conscious dreaming, observing narratives without becoming attached to them, letting go of details to recognize the underlying patterns. The traditional ways of perceiving the landscape have changed. The frame is as significant as what it contains. Electric breath dissolves boundaries between the physical and imaginary universe. Pull the plug and it's gone.



Shalom Gorewitz has been working with video and computer technology since the late 1960s to create poetic, intellectual and politically charged art videos relating to faith, relationships and social issues. He has received grants from the New York State Council on the Arts, the New York Foundation for the Arts, and the National Endowment for the Arts, and has worked in residence at the Experimental Television Center, Rensselaer Polytechnic Institute and the Beersheva Institute of Art in Israel. His work has been exhibited worldwide and is distributed by Electronic Arts Intermix.

Stills from Gorewitz videos.

tech, I want to close by mentioning the work of a group of prison activists I recently met from Cincinnati. For the past three years, the Books 4 Prisoners Crew has been providing books free of charge to prisoners in Ohio, Indiana and Texas. The Crew was established by a former prisoner and several young activists in order to meet the enormous demand for books inside prisons where libraries, if they exist at all, are poorly stocked and rarely replenished. In addition to soliciting donations from individuals, the Crew has worked to develop relationships with legal publishers in order to redistribute their surplus stock. Up-to-date legal journals and reference volumes are among the books most frequently requested by inmates who commonly cannot afford legal representation and must educate themselves in order to protect and exercise their basic rights. Within a glob-

al economy based on profit, the Books 4 Prisoners Crew has succeeded in creating a parallel economy based on need. They are doing so without public funding and with next to no technology. When I asked them why they haven't applied for grants or computerized their system, they explained that while they aren't against doing either, they want to remain in control of how they invest their time and energy. As one member explained, the cost in time and dollars of setting up a non-profit, for example, would mean months during which prisoners would not receive books, a tradeoff the group is currently not willing to make. I can only imagine that public school districts experience a similar ambivalence in trying to balance their own priorities with those imposed by the current public funding system.

Notes:

1. Christian Parenti, "Lockdown America". New York: Verso, 1999. p. 169.

Julia Dzwonkoski is a visual and media artist who is currently the Director of the Herndon Gallery at Antioch College in Yellow Springs, Ohio. She is the co-curator with Kye Potter of the exhibition *Made in Prison: Contemporary Art by Incarcerated Americans*, information about which may be found at: www.mishaptic.com.

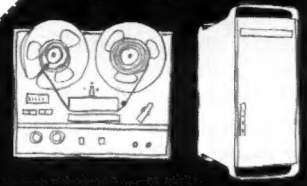
Artwork from "Made in Prison," curated by Julia Dzwonkoski and Kye Potter: Jesus Rios, "Slippers," 2003, milk carton, 4" x 9 1/2" x 3 1/2"

SPECIAL HIGHLIGHT ON THE EXPERIMENTAL TELEVISION CENTER

Personal and historical essays by established video/media artists

WHAT I WOULD LIKE THE FUTURE TO HOLD IS BOTH/AND...

by Ann-Sargent Wooster



I came to video in around 1978. I have a reel-to-reel tape of a performance I did then that cannot—without much expense and time—be shown today. I once started to have it cleaned and after three hours they could only clean one minute's worth. I borrowed a video camera to do my first two tapes. I won the Sony Visions of America contest with my second tape and the prize was a video 8 camera. I got my first commuter an Apple IIC in 1985 and by the time I finally upgraded it the files could not be read by my new computer. I vowed at that point to keep my technology current or at least able to speak to each other. I wouldn't call myself an early adopter but somewhere in the beginning of a learning curve. I used one of the first ATM's when they were introduced in the seventies. I did my first audio projects with a home tape recorder that was the size of a shoebox. I have shot on super 8 film, vhs, video 8, and mini-dv. I have edited my final projects on vhs, 3/4 and one inch and most recently on mini-dv. With one exception I have always used consumer grade equipment. Partially, this reflects my attitude toward video art and its expenses. In my pragmatic sense of the economics of the art world, it seemed to me that if you were not making money on video art, you shouldn't spend more money than you had. If you were not hitting the big bucks in grants on a regular basis and didn't work at a TV station or a university video department with access to their high-end equipment, then it was better to scale back rather than quit. Quality is, of course, an issue and one of the things my thrifty soul likes to do is make low budget

projects or ways of working come across more like their higher priced cousins. This often involved excellence in ideas, careful

My shiny black Underwood type-writer with round white keys was a much more beautiful object than any of my computers have been.

shooting and fun with low budget special effects and animation. One of my favorites involved swirling dead octopii in the bathtub to make them look alive and filming strangers in the Piazza San Marco as the stand-ins for my characters Venetian interlude in *The Dialectics of Romance*. I'm sure some of them thought I was a private eye hired by their spouses to get evidence of their bad behavior for a divorce.

I wrote three books and numerous articles on a manual typewriter. My shiny black Underwood typewriter with round white keys was a much more beautiful object than any of my computers have been. The grueling and extremely boring aspect of having to retype a page every time you made a correction is a physical and mental agony well replaced by word processing programs and printers. A cloth typewriter ribbon could last five years and cost \$5. You could use it even if it was worn out and the poe power was off. Printer cartridges are a lot more expensive. You go through many more of them and if the blue ink wears out in the color cartridge the printer wouldn't let you print out your work

in black and white until you replace the color cartridge. With a hard copy, you have the page in hand. With computers, necessary information can vanish into the nether regions of the computer and without outside help, can be lost forever. Gone are the days when kicking a machine might make it work. Machine human interface is often frustrating and you have to think like the machine if you do not to be controlled by it. Often, computer-based things act like stubborn unreasonable children. When it says no, you have to often restart the machine several times until it says yes. When I was typing this on Microsoft Word the program kept warning me of what it thought was incorrect grammar and spelling. That wavy green line under phrases is enough to give you writer's block. I want a machine to keep its opinions to itself. Fortunately, there is a way to turn grammar check off, so any problems in grammar are my own.

My first projects in time-based media involved super 8 film and performance. The really cool thing you could do with film was literally cut and paste two pieces of film together to make an edit but to my thrifty, pack rat soul there was something about only having one of something that seemed both scary and wasteful. Film is also like a vinyl record—easily scratched and degraded each time you show it. Making copies of the finished piece is expensive but necessary. What I liked about video from the first moment I had hands on experience with it was that you were electronically transferring information

and that the original material was an inexhaustible well. As time went on I acquired enough analog video equipment that I could run around the living room curating shows from a shopping bag of tapes left in my elevator or making copies and dubs of my work. *Carmen* was my one experience with the Standby program and one-inch. The final edit involved nights (6PM to 6AM) spent in a one-inch editing studio with young male computer jockeys. It produced a beautiful product, but not one I could afford without financial help.

Video as a medium can be irritating. One of the things I never liked about video was the problem of dropout. It could ruin the perfect shot and although there are methods of working around it, none of them are easy. Dropout was the one thing about analog video that really bothered me. On more than one occasion, I wished you could just take paintbrush to it, like I would do in a painting. When I first began working at ETC, it seemed as if everything was analog with the Paik-Abe synthesizer, and sequencers, a machine called color kill that turned things black and white and a sequencer. Most effects were produced by turning knobs. Then came the Amiga and the toaster. I had more fun with the toaster than any other effect there. I really miss the way it could let you turn fire into ice or render your footage into tic tac toe boards or pages of miniature postage stamps. There was a wonderful cheesy 3-D cube. I remember my dyslexia kicking in when Hank Rudolph (ETC Tech Support) was trying to teach me to use a mouse. You had to boot programs in my at-home computer by inserting floppies with no mouse. Two years ago working ETC, we were recording on mini-dv for the first time and I realized the quality was much better than regular videotape. I had for years been carrying big boxes of blank 3/4 inch tapes up to the center. I suspended my New York Foundation for the Arts grant application for the year and vowed to go digital. I got a digital video camera, a copy of Final Cut Pro, more memory for my computer, a Final Cut Pro manual and a device that helped translate analog signals. Good to go? Wrong! I could barely touch the camera and the little bit of Final Cut Pro I did at the Center didn't make sense when confronted with doing it on

my own. I'm not a doodler. I'm not a person who wants to know the soul of the machine. I like to use computers but not noodle with them trying out various effects for the sheer fun of it. If I want to play I'll bake a pie or do a painting or etching. I know digital is the future but it hasn't been going forward for me. I took a course last summer in Final Cut

The final edit involved nights (6PM to 6AM) spent in a one-inch editing studio with young male computer jockeys. It produced a beautiful product, but not one I could afford without financial help.

Pro 3. I discovered that Final Cut 2 is not compatible with Final Cut 3 and three was not compatible with Final Cut 4 which was coming out in three weeks. This is one of the ridiculous things about digital software. Not that this hasn't happened with earlier video but the speed of change is faster and much more expensive. This is especially problematic if you want to do the rough-cut yourself and not have to enter into a partnership with young computer jockeys who are up to date with the latest software changes. From my class I could see that ultimately good ideas triumph. A sense of content. Style and a knowledge of editing techniques were as valuable as being able to do fancy tricks on a machine. The program itself is a mixture of film editing, Photoshop and video editing. It talks about things in several different languages and you have to be Champillion translating the texts on the Rosetta stone to make it work. Ultimately, it can be a tool to make a higher quality of low cost video work possible for more artists. It used to be that you could start off doing low tech work using a Fischer Price camera and then the middle ground became vastly more problematic unless you hit the lottery like Matthew Barney and Bill Viola and were showered with money as the designated hitter for the field. Digital media have the already realized potential of giving more people the chance to be emerging and mid-career video artists.

One last thought about the difference between analog vs. digital. Things done

entirely on a computer can be very beautiful, but there is also a risk of deadness without a hand touch visual component. The computer can make things more perfect—such as the justified edges I'm fond of. In 2002, I was doing soft ground etchings that involved squashing toys into a tarry surface by placing a rubber blanket on them and rolling them through a huge etching press. Mostly, I stuck to soft toys, but I really wanted to squash a Barbie doll. This upset the etching studio because they were afraid I would break the press and also, the image wouldn't work. I eventually caved in and scanned the doll and made it into a photo etching. The image was perfectly clear, but it had none of the joy of turning used toys into roadkill. The forms in those prints became blurred like fossilized skeletons. The ambiguity bothered people

What I would like the future to hold is both/and, an intersection of human and machine, analog and digital.

and I began to use aquatint to bring back some of the original shape of the toy which only existed in my memory. Now you can look at and say, "Oh, that's a bunny!" Later that Fall I did a series of prints with recycled stuffed animals using a scanner, adobe Photoshop, and photo etching. They are at times more visually interesting but lack some of the tactile violence of the first series. The computer is a tool. I don't want to write in a way that Microsoft word thinks is grammatically correct. I need to be the soul of my own machine. When computers came into our lives we were presented with a binary system of Is and IIs, either/or. What I would like the future to hold is both/and, an intersection of human and machine, analog and digital.

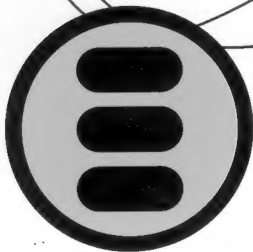
Ann Sargent-Wooster is an artist, author and teacher. Her paintings, tapes and live performances have been seen at the Pompidou Center, Paris; the Institute for Contemporary Art, Boston; The Kitchen and elsewhere. She has been published in *Artforum*, *Art in America*, *Art News*, *Afterimage*, and was a contributing editor of *Express Magazine*. She wrote *Reach Out and Touch Someone: The Romance of Interactivity for Illuminating Video*, edited by Doug Hall and Sally Jo Fifer.

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How Tech Savvy Are You? Take DAVE GRACON's Pop Quiz
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JULIA DZWONKOSKI's Analysis of Technology Use and Prisons
Edit on an Old iBook with COREY CONTRERAS' Hacking Solution
AARON MILLER's Ideology Debate
COURTNEY GRIM's Spy Cameras
Low-Tech Sudden Non-Fiction by K. YOUNG
DOROTHEA BREMER interviews HARRUN FAROCKI

PLUS: personal anecdotes by
CAROL GOSS, SHALOM GOREWITZ, ANN-SARGENT WOOSTER,
NICHOLAS ECONOMOS

RESIDENCY APPLICATIONS IN THIS ISSUE!



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